



DUSD(Readiness)

Training the Transformed Force

**NDIA Conference on Testing and Training for Readiness:
Emerging Challenges, Opportunities and Requirements**

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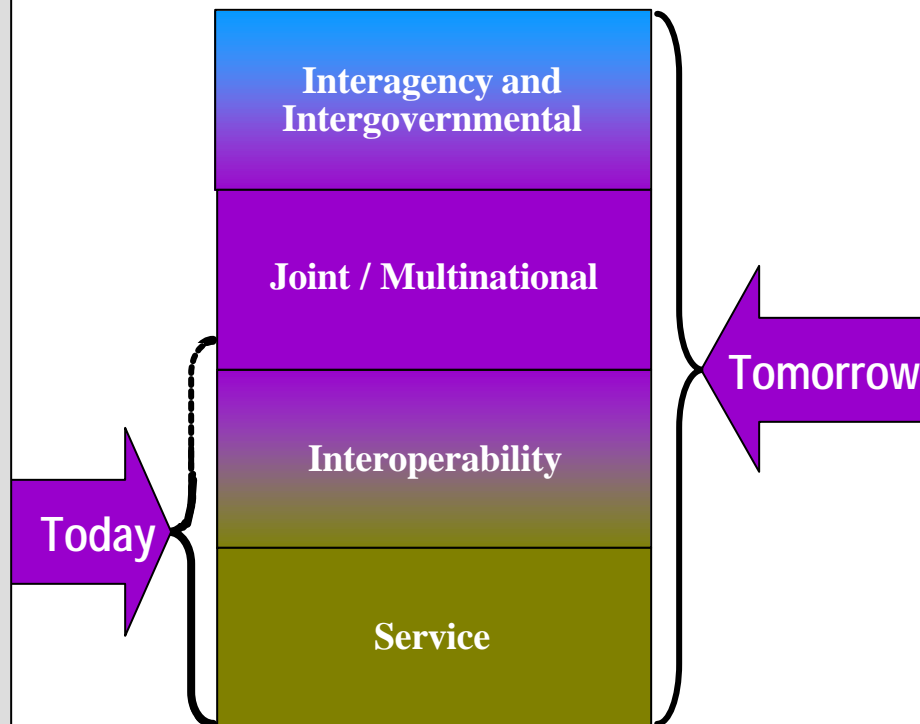
DoD Must Transform Training to Enable the Transformed Force

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Current Training

- **Service Focus**
 - Schoolhouse-based
 - Mostly live
 - Service core tasks
 - Less flexible (2 MTWs)
- **Unit capabilities**
- **Service-centric SORTS reporting**
- **Independent test and training ranges**
- **Some AC/RC integration**

DoD Training



Transformed Training

- **Joint/Multinational Focus**
 - Schools, distributed, embedded
 - Live and/or Simulated
 - Joint interoperability tasks
 - More flexible-diverse missions
- **Networked capabilities**
- **Joint interoperability training measured and reported**
- **Linked, integrated and accessible ranges**
- **Total Force integration**

Goal: Transform military training to enable Joint Forces to perform future operations



For Training Transformation to Succeed, We Must . . .

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- **Ensure Training Ranges are Sustainable, Capable, and Available**
 - Establish a “DoD Range Activity” for training ranges
 - Modernize and link ranges
 - Increase dual and mutual use of test and training ranges
 - Address encroachment
- **Revise Acquisition and Logistics Policies and Procedures to Emphasize Training**
- **Use Distributed Learning Technologies to Reengineer Individual Training and Job Performance**
 - Provide incentives, tools, and common standards for interoperability
 - Establish budget line for Advanced Distributed Learning (ADL)
 - Increase use of Job Performance Technologies / Embedded Training



From the perspective of the DSB Task Force on “Training Superiority and Training Surprise” . . .

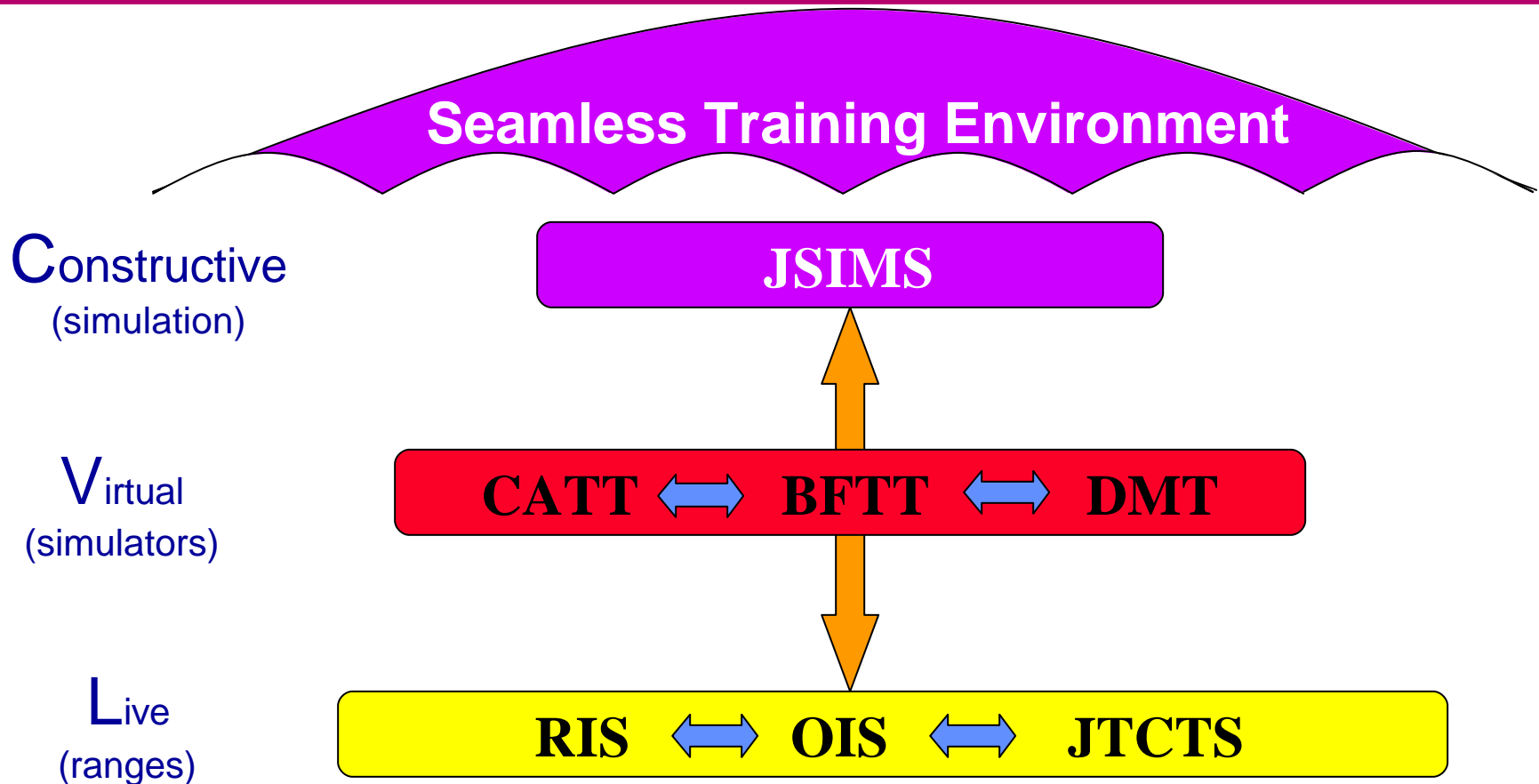
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- **Our uniquely American Training Superiority is eroding**
- **JV2010/2020 future will require more training, not less**
- **Training failure will negate hardware promise**
- **A second revolution in training is needed, is possible, and should be fostered**
- **Training should take its Title 10 seat with “Man & Equip”**
 - **Restore / expand on crown jewels of current training revolution (CTCs)**
 - **Establish and test co-equal training subsystem in each acquisition program**
 - **Raise OSD/Acquisition training conscience**
- **The DoD Community must act to detect and avoid “Training Surprise”**



Future Live / Virtual / Constructive Training Environment

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Connect live, virtual and constructive simulation and instrumentation systems to flexibly support on-demand, mission and force specific training requirements.



Encroachment

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Current Issues

- Endangered Species Act
- UXO and Other Constituents
- Frequency Encroachment
- Maritime Sustainability
- National Airspace System
- Air Quality
- Airborne Noise
- Urban Growth
- Outreach



Follow-on Issues

- Space
- Overseas Ranges
- Airspace Restrictions
- Water Use
- Cultural Resources
- Ecosystem/Biodiversity
- Land Use
 - Native American
 - Resource Extraction
 - Civilian Access



Key Elements of the Digital World

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- **Learning Technologies (ADL)**
- **Distributed Simulation**
- **Embedded Training / Job Performance Aids**
- **Communications Infrastructure**

Focus: Improve Performance

- **Learners**
- **Operators**



"Learning"

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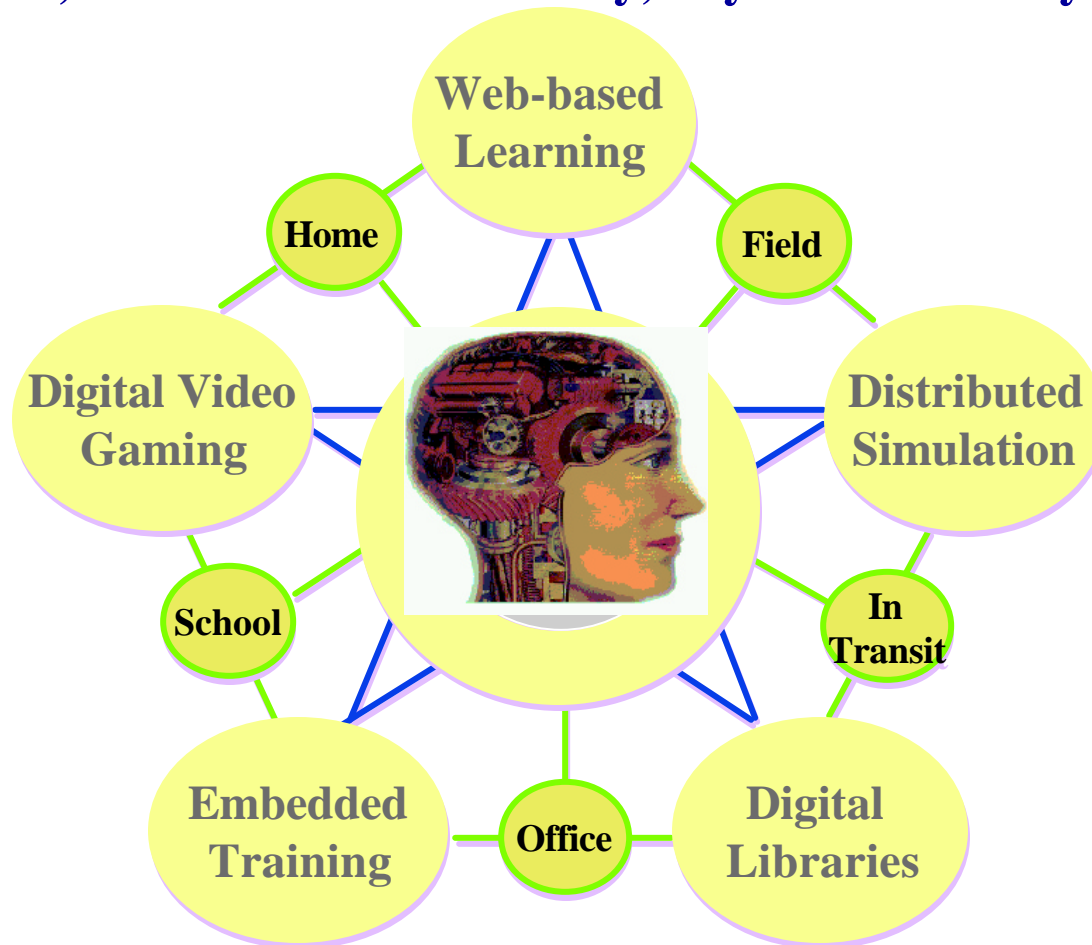
- **Education**
- **Training**
- **Performance Support**



ADL Vision

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Provide access to the highest quality education and training, tailored to individual needs, delivered cost effectively, anywhere and anytime.





ADL Strategy

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- Use network-based technologies
- Create platform-independent - reusable content
- Promote large-scale cooperation to satisfy common needs
- Develop common specifications for interoperability / reuse
- Enhance performance with emerging and next-generation technologies
- Provide incentives for organizational and cultural change

Communities of Self-interest Developed Common ADL Specifications

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ADL Functional Requirements

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Accessible: access instructional components from one remote location and deliver them to many other locations

Interoperable: use instructional components developed in one location, with one set of tools or platform, in another location, with a different set of tools or platform

Reusable: incorporate instructional components into multiple applications

Durable: operate instructional components when base technology changes, without redesign or recoding

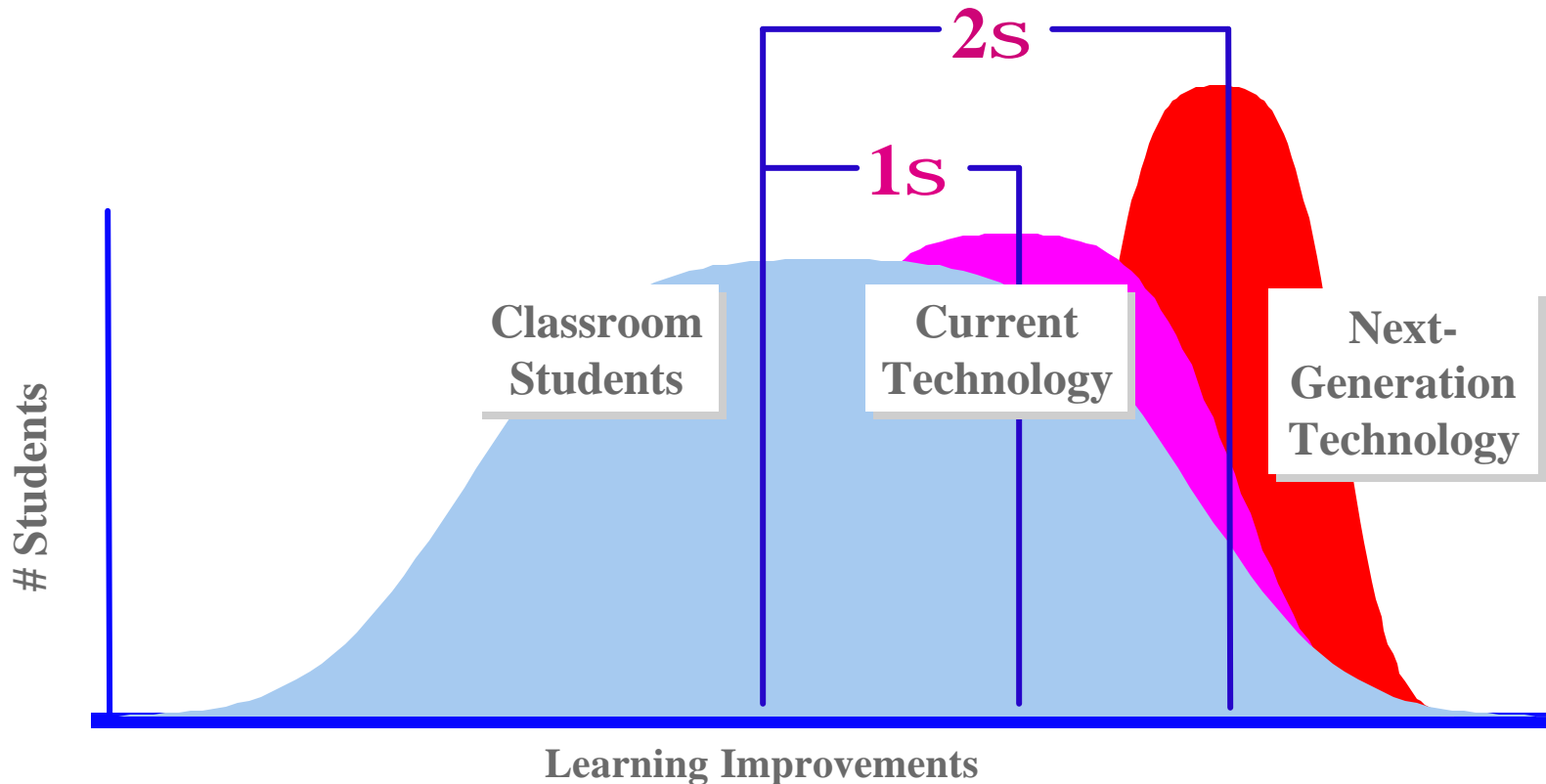
Affordable: increase learning effectiveness significantly while reducing time and costs



The Learning Technology Potential

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Average tutored student's achievement is better than 98% of classroom students

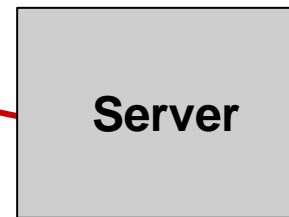


Adapted From: Bloom, B.S. The Two-Sigma Problem: The Search for Methods of Group Instruction as Effective as One-to-One Tutoring. Educational Researcher. 13,4-16 (1984)

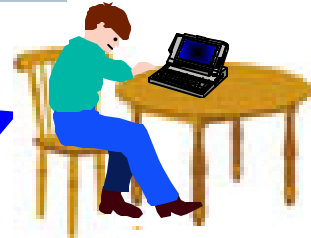
The “A” in ADL



***Shareable Content
Objects from across the
World Wide Web***



***Assembled in
real-time, on-
demand***



***To provide learning
and assistance
anytime, anywhere***



5 Years ago we . . .

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- Talked about the “**maturing partnership** between testing and training”
- Announced our efforts to develop the **Joint Test and Training Range Roadmap (JTTRR)**
- Defined the “**common ground**” between testing and training
 - Realism
 - Instrumentation
 - Simulators
 - ACTDs
 - Real, early military capability



4 Years ago we . . .

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- Held a forum on “Testing and Training Ranges: a Partnership for the 21st Century”
- Focused on collaboration and integration as keys to success
- Highlighted that it’s really not about technology, but about changing the culture



3 Years ago we . . .

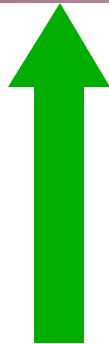
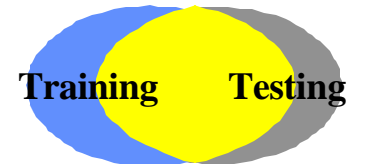
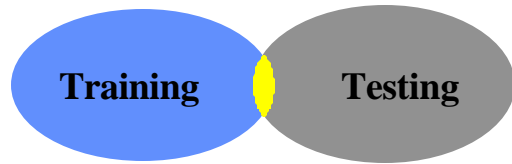
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- Talked about building a **National Partnership** for testing and training
- Identified perceived and real **obstacles** and **incentives**

How can we make
testing and training a
True
“National Partnership”
?



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?



Test and Training Intersection

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- Recognition and support from the top (USD(P&R) and DOT&E)
- Common Requirements
- Common Tools
- Common Concerns
 - System Compatibility
 - Range Management and Use (T&E Enterprise model)
 - Instrumentation (JTTRR)
 - Encroachment (Space, Spectrum, etc.)
 - Data Links



Role of the SROC

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- **Focus on all aspects of readiness**
- **High-level membership**
- **Concerned about ranges (especially MTCs) and encroachment, and the impact on readiness**
- **Using DTTSG for support**
 - **TIRIC**



Training (and Testing?) Bottom Lines

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We must:

- **Fundamentally reengineer** how it does business to educate and train effectively in tomorrow's knowledge-based environment
- Provide **incentives** for change
- **Collaborate** across DoD as well as with the public and private sectors
- Develop **open architectures** that will allow it to take advantage of rapidly changing technology
- **Experiment**